



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2014-0196; Directorate Identifier 2014-NM-015-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, Model CL-600-2D15 (Regional Jet Series 705) airplanes, Model CL-600-2D24 (Regional Jet Series 900) airplanes, and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. This proposed AD was prompted by two in-service reports of fracture of the rudder pedal tubes installed on the pilot-side rudder bar assembly. This proposed AD would require repetitive inspections for cracking and damage of the pilot-side rudder pedal tubes, and corrective action if necessary. This proposed AD would also provide optional terminating action for the repetitive inspections. We are proposing this AD to detect and correct cracked and damaged pilot-side rudder pedal tubes, which could result in loss of function of the pilot's rudder pedal during flight, takeoff, or landing, and could result in reduced controllability of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0196; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any

comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Cesar Gomez, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7318; fax (516) 794-5531.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2014-0196; Directorate Identifier 2014-NM-015-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

## Discussion

Transport Canada Civil Aviation (TCCA), which is the airworthiness authority for Canada, has issued Canadian Airworthiness Directive CF-2014-02, dated January 8, 2014 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, Model CL-600-2D15 (Regional Jet Series 705) airplanes, Model CL-600-2D24 (Regional Jet Series 900) airplanes, and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. The MCAI states:

There have been two in-service reports of fracture of the rudder pedal tubes installed on the pilot-side rudder bar assembly on CL-600-2B19 model aeroplanes.

Laboratory examination of the fractured rudder pedal tubes found that in both cases, the fatigue cracks initiated at the aft taper pin holes where the connecting rod fitting is attached. Fatigue testing of the rudder pedal tubes confirmed that the fatigue cracking is due to loads induced during parking brake application. Therefore, only the rudder pedal tubes on the pilot’s side are vulnerable to fatigue cracking as the parking brake is primarily applied by the pilot.

Loss of pilot rudder pedal input during flight would result in reduced yaw controllability of the aeroplane. Loss of pilot rudder pedal input during takeoff or landing may lead to a runway excursion.

Although there have been no reported failures to date on any CL-600-2C10, -2D15, -2D24, and -2D25 model aeroplanes, the same torque tubes part number (P/N) 600-90204-3 are installed, which may be prone to premature fatigue cracking.

This [Canadian] AD mandates initial and repetitive [detailed and eddy current] inspections [for cracking and damage] of the pilot-side rudder pedal tubes,

P/N 600-90204-3, until the terminating action [replacement of both pilot-side rudder bar assemblies] is accomplished [and corrective actions if necessary].

Corrective actions include replacement of the rudder bar assembly and repair.

You may examine the MCAI in the AD docket on the Internet at

<http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0196.

### **Relevant Service Information**

Bombardier has issued Service Bulletin 670BA-27-065, dated November 15, 2013. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

### **FAA's Determination and Requirements of this Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

### **Repair Approvals**

In many FAA transport ADs, when the service information specifies to contact the manufacturer for further instructions if certain discrepancies are found, we typically include in the AD a requirement to accomplish the action using a method approved by either the FAA or the State of Design Authority (or its delegated agent).

We have recently been notified that certain laws in other countries do not allow such delegation of authority, but some countries do recognize design approval organizations. In addition, we have become aware that some U.S. operators have used repair instructions that were previously approved by a State of Design Authority or a Design Approval Holder (DAH) as a method of compliance with this provision in FAA ADs. Frequently, in these cases, the previously approved repair instructions come from the airplane structural repair manual or the DAH repair approval statements that were not specifically developed to address the unsafe condition corrected by the AD. Using repair instructions that were not specifically approved for a particular AD creates the potential for doing repairs that were not developed to address the unsafe condition identified by the MCAI AD, the FAA AD, or the applicable service information, which could result in the unsafe condition not being fully corrected.

To prevent the use of repairs that were not specifically developed to correct the unsafe condition, certain requirements of this proposed AD would require that the repair approval specifically refer to the FAA AD. This change is intended to clarify the method of compliance and to provide operators with better visibility of repairs that are specifically developed and approved to correct the unsafe condition. In addition, we use the phrase “its delegated agent, or the DAH with State of Design Authority design organization approval, as applicable” in this proposed AD to refer to a DAH authorized to approve certain required repairs for this proposed AD.

### **Costs of Compliance**

We estimate that this proposed AD affects 400 airplanes of U.S. registry.

We also estimate that it would take about 3 work-hours per product to comply with the basic inspection requirements of this proposed AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$102,000, or \$255 per airplane, per inspection cycle.

In addition, we estimate that any necessary replacement of the rudder pedal tubes would take about 6 work-hours and require parts costing \$2,850, for a cost of \$3,360 per product. We have no way of determining the number of aircraft that might need this action.

We have received no definitive data that would enable us to provide cost estimates for the on-condition repairs specified in this proposed AD.

#### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

## **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.



**§ 39.13 [Amended]**

2. Amend § 39.13 by adding the following new airworthiness directive (AD):

**Bombardier, Inc.:** Docket No. FAA-2014-0196; Directorate Identifier  
2014-NM-015-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF  
PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the airplanes identified in paragraphs (c)(1), (c)(2), and (c)(3)  
of this AD, certificated in any category.

(1) Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702)  
airplanes, serial numbers 10002 through 10342 inclusive.

(2) Bombardier, Inc. Model CL-600-2D15 (Regional Jet Series 705), and Model  
CL-600-2D24 (Regional Jet Series 900) airplanes, serial numbers 15001 through 15337  
inclusive.

(3) Bombardier, Inc. Model CL-600-2E25 (Regional Jet Series 1000) airplanes,  
serial numbers 19001 through 19040 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 27, Flight controls.

**(e) Reason**

This AD was prompted by two in-service reports of fracture of the rudder pedal tubes installed on the pilot-side rudder bar assembly. We are issuing this AD to detect and correct cracked and damaged pilot-side rudder pedal tubes, which could result in loss of function of the pilot's rudder pedal during flight, takeoff, or landing, and could result in reduced controllability of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Repetitive Inspections**

Before the accumulation of 26,000 total flight cycles or within 3 months after the effective date of this AD, whichever occurs later: Perform a detailed or eddy current inspection for cracking around the aft tapered holes of both pilot-side rudder pedal tubes and for damage of the rudder pedal tubes in locations other than around the aft tapered holes, in accordance with Part A of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-27-065, dated November 15, 2013. Repeat the inspection thereafter at the applicable intervals specified in paragraph (g)(1) or (g)(2) of this AD, until the terminating action specified in paragraph (i) of this AD is done.

(1) If the most recent inspection was a detailed inspection: Within 750 flight cycles after doing the detailed inspection.

(2) If the most recent inspection was an eddy current inspection: Within 1,250 flight cycles after doing the eddy current inspection.

**(h) Corrective Actions**

(1) If any crack is found around the aft tapered holes during any inspection required by paragraph (g) of this AD, before further flight, replace the rudder bar assembly, in accordance with Part B of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-27-065, dated November 15, 2013.

(2) If any damage is found during any inspection required by paragraph (g) of this AD in a location other than around the aft tapered holes: Before further flight, repair using a method approved by the Manager, New York ACO; or TCCA (or its delegated agent, or the Design Approval Holder (DAH) with TCCA design organization approval, as applicable). For a repair method to be approved, the repair approval must specifically refer to this AD.

**(i) Optional Terminating Action**

Replacement of both pilot-side rudder bar assemblies, in accordance with Part B of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-27-065, dated November 15, 2013, constitutes terminating action for the repetitive inspections required by paragraph (g) of this AD.

**(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Program Manager, Continuing Operational Safety, FAA, New

York ACO, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they were approved by the State of Design Authority (or its delegated agent, or the DAH with a State of Design Authority's design organization approval, as applicable). You are required to ensure the product is airworthy before it is returned to service.

**(k) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2014-02, dated January 8, 2014, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0196.

(2) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on April 4, 2014.

Jeffrey E. Duven,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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